



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/996,580	11/30/2001	Yuji Kawano	Q66805	3790

7590

12/16/2002

SUGHRUE, MION, ZINN, MACPEAK & SEAS
2100 Pennsylvania Avenue, N.W.
Washington, DC 20037

EXAMINER

EASTHOM, KARL D

ART UNIT

PAPER NUMBER

2832

DATE MAILED: 12/16/2002

4

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/996,580

Applicant(s)

Kawano et al.

Examiner

Karl Easthom

Art Unit

2832



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (e). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-5 is/are pending in the application.
- 4a) Of the above, claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of:

- ☒ Certified copies of the priority documents have been received.
- ☐ Certified copies of the priority documents have been received in Application No. _____.
- ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

- 14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 2 6) ☐ Other:

Art Unit: 2832

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1-5 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. It is not clear how a "guaranteed storage temperature" occurs, or what is meant where it is not clear how the device would change structurally with or without the guaranty. It is also not clear who must guarantee the temperature, and how that effects the device. Such a claim would depend on an external actor making a "guaranty". Finally, parameters such as weather cannot be predicted, so that even if a guaranty were made, the device could be stored at a temperature outside the guaranty, rendering the scope unclear.

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wang et al.

(IEEE article submitted by app.) in view of McGlone or Dahlberg et al. Wang discloses the claimed invention, except the vehicle-mount, at the INTRO section and at Fig. 4 where annealing at 300 degrees C occurs, meeting the storage requirement since ambient is not higher than same.

The thickness is met since the bilayer thickness of CoFe/Cu is 37.9A, see Eq. 1, and with CoFe at 11-25 A at Fig. 4, t_m and t_n are met, where t_n is 37.9A-15 A, for example, or 22 A. The element

Art Unit: 2832

$z=1$ in this example. For claim 2, $N=21$ at p. 3521. For claim 3, the buffer layers of Ta, and NiFeCo at 40 Å meet the claim, see Fig. 3. For claims 4-5, the heating at 300 °C meets the claim for storage in normal ambients. Moreover, the storage temperature is akin to a field of use, so that the device of Wang could be stored at any such temperature, or guaranteed to be stored at same. Similarly, Kano discloses the claimed invention, except the vehicle-mount, at Fig. 9, and at col. 4, lines 20-45, with annealing at 320 degrees °C at Example 2, col. 7, meeting the storage requirement since ambient is not higher than same. Further, the device is prevented from heat deterioration during use, according to col. 15, lines 15-35, where the device can be operated at any temperature below 320 depending on the use. Or alternatively as to the storage temperature, McGlone discloses storing or using at from 80 degrees to about 250 degrees °C, at col. 5, lines 1-10. McGlone discloses using the GMR sensor in a vehicle or many types of applications, including GMR devices having Cu and Co, similar to that of Wang, see col. 9, lines 55-65, and col. 5, lines 45-50. Or, Dahlberg discloses at col. 1 using GMR sensors in vehicles for navigation, where navigation systems have been desired in vehicles for over 200 years. It would have been obvious to employ the GMR sensor of Wang or Kano in the vehicles of McGlone or Dahlberg at the desired temperatures where McGlone discloses the desirability of GMR sensors in general for detection and Marx discloses same for navigation, and in particular, all references disclose having Co and Cu for detection in vehicles at certain desired operating temperatures, with a similar GMR sensor of Wang disclosed.

5.

Art Unit: 2832

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Karl Easthom whose telephone number is (703)308-3306. The examiner can normally be reached on M-Th. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Elvin Enad, can be reached on (703)308-7619. The fax phone number for the organization where this application or proceeding is assigned is (703)308-7722. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.


KARL D. EASTHOM
PRIMARY EXAMINER